

FIGURE 1

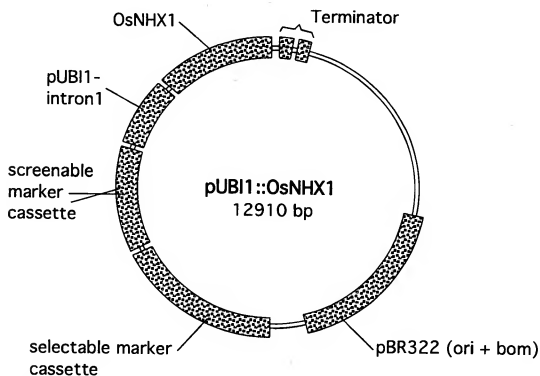


FIGURE 2

2/17 Replacement Sheet

SEQ ID NO 1: coding sequence for *Oryza sativa* NHX1 protein

GAGAAGAGAGTTTGTAGCGAGCTCGCGCAATGCGAAGCCAACCGAGAGAGGTCTCGA
TACCAAAATCCCGATTCTCAACCTGAATCCCCCCCCACGTTCTCGTTTCAATCTGTT
CGTCTGCGAATCGAATCTTTGTTTTTTTCTCTAAATTTTACCGGGAATTGTCGAATT
AGGCATTACCAACGAGCAAGAGGGGAGTGGATTGGTTGGTTAAAGCTCCGCATCTTGC
GGCGGAAATCTCGCTCTCTTCTCTGCGGTGGGTGGCCGGAGAAAGTCGCCGCCGTGAG
CATGGGGATGGAGTGGCGGCGCGCGCTGGGGGCTCTGTACACGACCTCCGACTACG
CGTGGTGGTGTCCATCAACCTGTTCTGTCGCGCTGCTCTGCGCTGCATCGTCTCGGC
CACCTCTCGAGGAGAATCGTGGGTCAATGAGTCCATCACGCGCTCATCATCGGGCT
CTGCACCGCGGTGGTGATCTTGTCTGATGACCAAGGGGAAGAGCTCGCACTATTCTGTC
TCAGTGAGGATCTCTTCTTCACTACCTCCTCCCTCCGATCATCTTCAATGCAAGTTTT
CAGGTAAAGAAAAAGCAATCTTCCGGAATTTTCATGACGATCATTATTGGAGCCGT
CGGGACAATGATATCCTTTTTCAAAATATCTATTGTCGCATTCGCAATATTCAGCAGAA
TGAACATTGGAAACGCTGGATGTAGGAGATTTCTTGCAATTGGAGCCATCTTTCTGCG
ACAGATTCTGTCTGCACATTGCAGGTCCTCAATCAGGATGAGACACCTTTTTGTACAG
TCTGGTATTGGTGAAGTGTGTGTGAACGATGCTACATCAATTGTGCTTTTCAACGCAC
TACAGAACTTTGATCTTGTGCCATAGATGCGGCTGTCGTTCTGAAATTCTTGGGGAAC
TTCTTTTATTATTTTTGTGCGACACCTTCTTGGAGTATTGTCGGATTGCTCAGTGC
ATACATAATCAAGAGCTATACATTGGAAGGCATTCTACTGACCGTGAGGTGGCCCTTA
TGATGCTCATGGCTTACCTTTTATATGCTGGCTGAGTTGCTAGATTGAGCGGCATT
CTCACCGTATTCTTCTGTGGTATTGTAATGTACATTACATTGGCATAACGTCACAGA
GAGTTCAAGAGTTACAACAAAGCAGCATTGCAACTCTGTCCTTCAATTGCTGAGACTT
TTCTCTTCTGTATGTTGGGATGATGCAATTGGATATGAAAAATGGGAGTTTGCCAGT
GACAGACCTGGCAAATCCATTGGGATAAGCTCAATTTGCTAGGATTGGTTCTGATTGG
AAGAGCTGCTTTTGTATTCCCGCTGTCGTTCTTGTGCAACCTTAACAAAGAAGGCACCGA
ATGAAAAATAACCTGGAGACAGCAAGTTGTAATATGGTGGGCTGGGCTGATGAGAGGA
GCTGTGTCGATTGCTCTTGCTTACAATAAGTTTACAAGATCTGGCCATACTCAGCTGCA
CGGCAATGCAATATGATCACCAGCACCATCACTGTCGTTCTTTTAGCATATGGTAT
TTGGGATGATGACAAAGCCATTGATCAGGCTGCTGCTACCGGCCTCAGGCCATCCTGTC
ACCTCTGAGCCTTTCATCACAAAGTCCCTGCATTCTCCTCTCCTGACAAGCATGCAAGG
TTCTGACCTCGAGAGTACAACCAACATTGTGAGGCCCTCCAGCTCCGGATGCTCCTCA
CCAAGCCGACCCACACTGTCCACTACTACTGGCGCAAGTTCGACGACGCGCTGATGCGA
CCGATGTTTGGCGGGCGCGGGTTCGTGCCCTTCTCCCTGGATCACCACCGAGCAGAG
CCATTGGAGGAAGATGAACAGTGCACAAAGAAATGAGAAATGGAAATGGTTGATGAGGAGAATA
CATGTAAATGTGACAGCAAAAGAGAGAAGGCAAGTTTGGGTTTGTAGAGTTTGGCTG
CTGCTAATGAGTTGTTGATAGTGCCTATATTCTTCAAACTTCAGATGGTGCCTCACCA
AGGCCTAAGAGCCAGGAGGACCTTCTGATAATGGTTCTGGGATGATTGGTTTGTCTGTC
AGGATGAACCCCTAGTGAGTGACACAGGGTGATGTGCTCCGACAACCTGTAAATTTGTGA
GATTAAACAGCCCCATTGTACCTGTCTACCATCTTTAGTTGGCGGGTGTCTTTCCTAG
TTGCCACCTGCATGTAAATGAAATCTCCGCCAAATAGATTTGTGTGTATAATAAT
TTTGCTTGGTTG

FIGURE 3

SEQ ID NO 2: *Oryza sativa* NHX1 protein

MGMEVAAARLGALYTTSDYASVVSINLFWALLCACIVLGHLLLEENRWVNESITALIIGL
 CTGVVILLMTKGKSSHLFVFSSEDLFFIYLLPPIIFNAGFQVKKKQFFRNFMITIIFGAV
 GTMISFFTISIAAIAIFSRMNIGTLDVGDFLAIGAIFSATDSVCTLQVLNQDETPFLYS
 LVFGEVGVNDATSIVLFWNALQNFDFLVHIDAADVLLKFLGNFFYLFLSSTFLGVFAGLLSA
 YIIKKLYIGRHSTREVALMMLMAYLSYMLAEELDLGSLITVFPFCGIVMSHYTWHNVTE
 SSRVTTKHAFATLSFIAETFLFLYVGMDDALDIEKWEFASDRPGKSIGISSILLGLVLIG
 RAAFVFPFLSFLSNLTKKAPNEKITWRQQVVIWVWAGLMRGAVSIALAYNKFTSRGHTQLH
 GNAIMITSTITVVLFWSTVMFGMMTKPLIRLLLPASGHPVTSEPPSPKSLHSPLLTSMQG
 SDLESTTNIVRPPSSRLMLLTKPHTHVHYYWRKFDDALMRPMPGGRGFVPFSPGSPTEQS
 HGGR

SEQ ID NO 3: *Arabidopsis thaliana* Nhxl

ATGTTGGATTCTCTAGTGTGCAAACTGCCTTCGTTATCGACATCTGATCACGCTTCTGT
 GGTTCGCTTGAATCTCTTGTGCACTTCTTTGTGCTTGTATTGTTCTTGGTCATCTTT
 TGAAGAGAAATAGATGGATGAACGAATCCATCACCGCCTTGTGATTGGGCTAGGCAC
 GGTGTTACCATTTTGTGATTAGTAAAGGAAAAGCTCGCATCTTCTCGTCTTTAGTGA
 AGATCTTTTCTCATATATCTTTGCCACCCATTATATTCAATGCAGGGTTTCAAGTAA
 AAAAGAAGCAGTTTTTCCGCAATTTGCTGACTATTATGCTTTTGGTGCCTGTTGGGACT
 ATTATTTCTTGCACAATCATATCTCTAGGTGTAAACAGATTCTTTAAGAAGCTTGGACAT
 TGGAACTTTGACTGGGTGATTATCTTGCTATTGGTGCCATATTGCTGCAACAGATT
 CAGTATGTACACTGCAGGTTCTGAATCAAGACGAGACACCTTTGCTTTACAGTCTTGTA
 TTCGGAGAGGGTGTGTGAATGATGCAACGTGAGTTGTGGTCTTCAACGCGATTACAGAG
 CTTTGATCTCACTCACTAAACCACGAAGCTGCTTTTCATCTTTCTGGAAACTCTTGT
 ATTTGTTTCTCCTAAGTACCTTGCTTGGTGCTGCAACCGGCTCTGATAAGTGCCTATGTT
 ATCAAGAAGCTATACTTTGGAAGGCACCTCACTGACCGAGAGGTTGCCCTTATGATGCT
 TATGGCGTATCTTTCTTATATGCTTGCTGAGCTTTTCGACTTGAGCGGATTCCTCACTG
 TGTTTTCTGTGGTATTGTGATGTCCCATACACATGGCACAATGTAACGGAGAGCTCA
 AGAATAACAACAAGCATACCTTTGCAACTTTGTCAATTTCTGCGGAGACATTATTTT
 CTGTATGTGTGGAATGGATGCCTTGGACATTGCAAGTGGAGATCCGTGATGACACAC
 CGGGAACATCGATCGCAGTGAGCTCAATCCTAATGGGTCTGGTCATGGTTGGAAGAGCA
 GCGTTGCTCTTTCCGTTATCGTTTCTATCTAATCTAGCCAGAAGAATCAAAGCGAGAA
 AATCAACTTTAACATGCAAGTGTGATTGGTGGTCTCATGAGAGGTGCTGTAT
 CTATGGCTCTTGATACAAACAAGTTTACAAGGGCCGGGCACACAGATGTACGCGGGAAT
 GCAATCATGATCACGAGTACGATAACTGTCTGCTTTTACACACAGTGGTGTTTGGTAT
 GCTGACCAAACCACTCATAAGCTACCTATTACCGCACCAGAACGCCACCAACGAGCATGT
 TATCTGATGACAAACCCCAAAATCCATACATATCCCTTTGTGGACCAAGACTCGTTT
 ATTGAGCCTTCAGGGAACCACAATGTGCTCGGCCTGACAGTATACGTGGCTTCTTGAC
 ACGGCCCCACTCGAACCCTGTCATTACTCTGGAGACAATTTGATGACTCCTTCATGCGAC
 CCGTCTTTGGAGGTCTGGCTTTGTACCTTTGTTCAGGTTCTCCAAGTGGAGAGAAAC
 CCTCTGATCTTAGTAAGGCT

FIGURE 3 (continued)

SEQ ID NO 4: *Arabidopsis thaliana* Nhx1 protein

MLDSLVS KLPSLSTSDHASVVALNLFVALLCACIVLGHLEENRWMNESITALLIGLGT
 GVTILLISKGKSSHLVFSZDLFFIYLLPPIIFNAGFQVKKQFFRNFTVIMLPGAVGT
 IISCTIISLGVTFQFFKKLDIGTFDLGDYLAIGAIFAATDSVCTLQVLNQDETPLLYSLV
 FGEGVNDATSVVFNIAIQSFDLTHLNHEAAFHLLGNFLYFLSTLLGAATGLISAYV
 IKKLYFGRHSTDREVALMMLMAYLSYMLAEFLDLSGILTVFPFCGIVMSHYTWHNVTESS
 RITTKHTFATLSFLAETFI FLYVGMDALDIDKWRVSVDTPGTSIAVSSILMGLVMVGRA
 AFVFPFLSFLSNLAKKNQSEKINFNMQVVIWWSGLMRGAVSMALAYNKFTRAGHTDVRGN
 AIMITSTITVCLFSTVVFGLMTKPLISYLLPHQNATTSMLSDDNTPKSIHIPLLDQDSF
 IEPGSHNVPRPDSIRGFLTRPTRTVHYWQRFDDSPMRPVFVGGRGVFPVPGSPTERN
 PPDLSKA

SEQ ID NO 5: *Medicago sativa* Na⁺/H⁺ antiporter

ACGGGGGAATCCAACCCATTGTATAACAACAACCTACCGGAGATATATAATATCTCTCT
 CCTCTAAATAGAATATCGACAGAGTGACTCAACAAGATTATTAGGAGTGATAATCTTCC
 ACGGCAGCTCAAAAAACAACAACATCCGATTATCATCATCAGCGTGTCTCGAGAGATAC
 TGTGTTGATGAGATCAGAAAGGTTCTTAAATGGACAGCTCAGAAACATAAATATCTGGG
 ATTCATTATTACTACTGGACTTTGAAATTTGGAAATTCAGCAATAATCTCAAAATTTGTT
 TTAATCTGCTTTTGAATTTGTGGAGGGTGGACGACATCATGGCTATTGAAATGCTCT
 CTATTGTTTCAAACTATCAATGTTATCCACTTCGATCATGCTTCTGTTGTTTCTATG
 AACTGTTTGTGGCACTCTGTGTGCTTGATGTCTTGCTGCTATCTTCGAGGAGAA
 TCGATGGATGAATGAATCCATCACTGCCCTTTTGATTGGTATTGCACTGGTGTAGTGA
 TTTTCTGTTTGTAGTGGTGGAAAAAGTTCGCAATATCTTGTTTTTCAGTGAAGATCTTTT
 TTTATATACCTTCTGCCGCCATTATATATCAATGCCGGGTTTCAAGTAAAGAAAAAGCA
 GTTTTTTGTCAACTTCATGACTATCACATCATTGGAGCTATTGGCACATTAATATCTT
 GTGTCATTATAACCAACGGGTGCTACTTTTGTCTTTAAGAGGATGGATATTGGGCCACTG
 GAAATCGCGCATTTATCTAGCTATTGGAGCAATATTGCCGCAACAGACTCTGTTTGCAC
 ATTGCAGGTGCTAAATCAGGATGAGACACCTTTATTGTATAGTCTTGTATTGGGGAAG
 GTGTTGTGAATGATGCTACCTCAGTGGTCTTTTCAATGCAATTCAAAGCTTTGATCTT
 AACCACCTGAACCTTCAATTGCATTGCAATTTCTGGGCAACTCTCTGTATTGTTTGT
 AGCAAGCAGACTCTTGTGGCTGTGACAGGTCTGCTCAGTGCCTATGTTATTAACAAAGC
 TGTACATTGGCAGGCACTCCACAGATCGTGAGGTGCTCTTATGATGCTAATGGCATA
 CTCTCCTATATGCTGGCTGAGTTAACCTATCTGAGTGGCATTCTTACCCTATTCTTTT
 TGGTATTGTTATGTCTCATTATACCTGGCATAATGTGACGAGAGTTCAAGAATCACTA
 CCAAGCATTCTTTTGTACCTTGTCTCTTTGTTGCTGAGATCTTTATCTTCTTTATGTT
 GGTATGGATGCCCTGGACATTGAAAAATGGAAGTTGTAGTGATAGTCTGGAAACATC
 TATAGCTGCAAGTTGATTTGTTGGGTCTAATACTCTTGAAGAGCAGCGTTTGTGTT
 TTCCCTTATCTTCTTATCCAATTTGACTAAAAATCACAACATCAGAAGATTTCCTTC
 AGACAGCAAGTTATCATTTGGTGGGCTGGTCTTATGAGAGGTGCTGTTTCAATGGCACT
 TCGGTATAATCAGTTCACCATGTGCGGGCACTCAACTACGTAGCAATGCAATCATGA
 TAACCAGCACCATCACTGTTGCTCTTTTCAAGCAGAGTGTGTTTGGTGTGCTAGTAA
 CCACTCATAAGGCTTCTACTACCTCATCTTAAATCACAAGCAGCATGACAACCACAGA
 ATCGACTACTCCAAATCATTGTTCCCACTTCTAGGAGATTCCCGAGATTCTGAAG
 CTGATCTTGAAGGCATGAAATTCACGACCGAACAGCCTTCGTGCTTTACTCAACT

FIGURE 3 (continued)

CCAACTCACACTGTTTCATCGATTATGCGGAAAGTTTGATGATTCATTACATGCGTCTCTGT
 TTTTGGTGGCAGAGGTTTTGTTCTGTAGAACCTGGCTCACCAGTGAACGCAATGGTA
 ATCAATGGGGTTGAGAAAAAGCCATGAAATGTGTAATATGTGTTGTATACTACGTAT
 GATTGTGAAAAGTCATGCAACGTGTGTATAATGTATTATTGTCATAAGAACCTAGTAG
 TGAATTTTTCTTTTAAAAAAAACCTCGTAGTGAATTTTGTGAGCTGTTGAGTAGC
 TAGTATGAGATGGCTTGCCATCTCTCTGTCTATTATGTAAACTACAATTTTTTAGAT
 TCTCTGAGCCATTACATGTTTGTGTATGTGTCCAAAAAATAAAAAA

SEQ ID NO 6: *Medicago sativa* Na⁺/H⁺ antiporter protein

MAIEMSSIVSKLSMLSTSDHASVVMNLFVALLCACIVLGHLEENRMNIESITALLIG
 ICTGVVILLFSGGKSSHILVFSEDLFFIYLLPPIIFNAGFQVKKKQFFVNFMTITSPGA
 IGTLSICVITTGATFAPKRMIDIGPLEIGDYLAIGAIFAATDSVCTLQVLNQDTEPLLY
 SLVPEGVVDNATSVVLFNAIQSFDLNLQNPISIALHFLGNFLYLFVASTLLGVVTGLLS
 AYVIKKLYIGRHSTDREVALMMLMAYLSYMLAEITYLSGILTVFPCGIVMSHYTWHNV
 QSSRITTKHSFATLSFVAEIFIFLYVGM DALDIEKWKFSVDSPGTSAASSVLLGLILL
 GRAAFVFPFLSPLSNLTKKSQHQKISFRQOVIWWAGLMRGAVSMALAYNQFTMSGHTQL
 RSNAIMITSTITVVLFSTVVFGLLTKPLIRLLLPHPKITSSMTTTESTTPKSFIVPLLG
 DSRDSEADLEGHEIHRPNLSLRALLSTPTHTVHRLWRKFDDSPMRPVFGGRGFVEPEGS
 PSERNGNQWG

SEQ ID NO 7: *Suaeda maritima* subsp. *salsa* Na⁺/H⁺ antiporter

TTTCACAAAGATTATTGGACTTCAGAAGTTTGATTTTGTGGAGCTAGAAAGGGTTTAC
 ATACATTGGACATTAATTTACTTGAATATATATATATTGTTGGGCTTGGATTCCG
 GTGCACAAAGAAATAGGTGAACAATGTTGTACAGTTGAGCTCTTTTTTGTCAAGTAAG
 ATGGACATGGTTTCGACGTCTGATCATGCTCCGTTGTTTCGATGAATTTGTTTGTGGC
 ACTGTTACGTGGCTGCATTGTGAATTGGTCATCTCTCGAAGAGAATCGCTGGATGAATG
 AATCCATTACAGCTTTGCTAATAGGTTTATCTACTGGGATTATAATCTCGCTAATTAGT
 GGAGGAAAGAGTTCGCATTGTTGGTCTTCAGTGAAGATCTTTCTTTATATACCTCCT
 TCCACCGATTATATTCAATCGCGGGTTTCAGGTGAAAAAGCAATTTTCCGCAACT
 TCATTACTATTATTTGTTTGGAGCCGTTGGTACATTGGTATCATTACATAATCATATCT
 CTTGGTTCAATAGCTATATTTCAAAGATGGATATTGGTTGCTGGAGTTAGGGGATCT
 TCTTGCAATTGGTGCAATATTCGCTGCAACTGATTGAGTTTGCACATTGCAAGTGCTTA
 ATCAAGATGAGACTCCACTCTTTTATAGTCTCGTGTTTGGTGAAGGTGTCGTCATGAT
 GCTACATCAGTGGTGTGTTCAATGCAATCAAACTTTGACCTCAGCAGATTGACCA
 CAGAATTGCCTTCCAATTTGGTGGCAACTTTCTATATTTATTTTTTGCAAGCATCTGCT
 TTGGAGCAGTGAATGGCTTGTGTAAGCGCTTATGTATCAAAAAGTTGTACTTTGGAAGG
 CATTCAACTGACCGTGAGGTAGCCTTAATGATGCTTATGGCTTATCTATCGTACATGCT
 TGCTGAACTCTTCTATCTGAGCGGAATCTTACAGTATTTCTTCTGTGGGATTGTCATGT
 CCCATTATACATGGCACAATGTGACGGAGAGCTCCAGAGTAACCAAGCATGCTTTT
 GCAACACTCTCTTTGTAGCTGAGATCTTCATCTTTGATATGTTGGATGGATGCACT
 GGATATTGAGAAGTGGAGATTGTTGAGCGATAGTCCCTGGAACATCTGTTGCTGTGAGTT
 CCATACTGCTTGGTCTTCACATGGTTGGGCGAGCTGCTTTTGTGTTTTCCCTTCGCCTTT

FIGURE 3 (continued)

TTAATGAACCTTGTCCAAGAAATCAAATAGTGAGAAGGTCACCTTCAATCAGCAGATAGT
 CATTGGGTGGGCTGGTCTCATGAAAAGTGCTGTCTCCGTGGCACTTGCTTATAATCAGT
 TTTC AAGGT CAGGACACACAGCTGAGGGGAAATGCAATCATGATTACAAGCACCATA
 ACCGTTGTCTCTTTTCAGTACGATGGTATTTGGGTTGCTGACAAAGCCTCTTATACCTTT
 TATGTTGGCTCAACCGAAACATTTCAGTAGTGCAAGCACCGTGTGAGATTTGGGGAGTC
 CAAAGTCATTCTCTCTTGGCTCTTCTTGAAGATAGACAAGATTCTGAAGCTGATTGGGC
 AACGATGATGAAGAAGCCTACCCCGGTGGGACTATAGCTCGACCTACTAGTCTTCGTAT
 GCTACTAAATGCACCAACTCACACTGTCCATCATTTATGGCGCAGATTCGATGATTATT
 TCATGCGGCCTGTATTGGTGGCCGGGGTTTTGTACCTTTTGTCCCAGGTTACCCACC
 GAACAGAGCATCACTAATTTTGTACAGAGAACAATAAGTTAGCGATAATTGAGGCAGTT
 GGTGCAGAACTAATAACTTACAGCCCTACAGGCAATCTACAAAGACAAAAATGCCCC
 TACCCAAGAACGAACAGCCCGGTGTTGGTCTCGTGGGCTTGATGTTAAGACTGTGCTG
 TACTTCTGTTAATAGAGAGTAAGTTACAGAAACCACCGATTAAACATATCTGTAATTT
 TTTACAGCATGGATATTCGATGCATCTTTAATCTGGCTGTAGCTAGAATACTCTAGCA
 TGTTTTGTAGTTTTCAGTCTTACCATTAGGTTTTCTCTACATAACCTCAATAAGCTGT
 TTAGTGTGCTTACTGCTTACTTTAGAGCAAAGTCAACTGTGAAAATTGCTTACGTCAG
 CGGCACCTGTGTAATTTATCATTTTATAATGATGGAGCATGATCATTTGCAATCAAAT
 TTACAATACTGTGATTAATAA

SEQ ID NO 8: *Suaeda maritima* subsp. *salsa* Na⁺/H⁺ antiporter protein

MLSQSSFFASKMDMVSTSDHASVVMNLFVALLRGCIVIGHLLEENRWMNESITALLI
 GLSTGIIILLISGGKSHLLVFSDELFFIYLLPPIIFNAGFQVKKQFFRNFITIIILFG
 AVGTLVSFIIISLSGIAIFQKMDIGSLELDLLAIGAIFATDSVCTLQVLNQDETPLL
 YSLVFGEGVNDATSVVLFNAIQNFDLTHIDHRIAIFQFGNLFYLFFASTLLGAVTGILL
 SAYVIKKLYFGRHSTDREVALMMLMAYLSYMLAELFYLSGILTVFFCGIVMSHYTWHNV
 TESSRVTTKHAFATLSFVAEIIFFLYVGM DALDIEKWRVFS DSPTSVAVSSILLGLHM
 VGRAAFVFPFAFLMNL SKSNSEKVTFNQQIVINWAGLMKS AVSVALAYNQFSRSGHTQ
 LRGNAMITSTITVVLFTSMVFGLLTKPLILFMPLPQPKHFTSASTVSDLGSPKFSFLPL
 LEDRQDSEADLGNDD EAYPRGTIARPTSLRMLLNAPHTHTVHHYWRFFDDYFMRPVFGG
 RGFVPFVPGSPTEQSITNFVTENIS

SEQ ID NO 9: *Zea mays* Na⁺/H⁺ antiporter NHX1

ATGGGGCTTGGAGTAGTGGCGGAGCTAGTCCGCCTTGGCGTCTCTTCTCCACCTCAGA
 TCAGCCTCCGTGGTGTAGCATCAATCTCTTGTGCGCTTGCTCTGCGCCTGTATCGTCC
 TGGGCCATCTCTTGAAGAGAATAGTGGGTGAACGAGTCCACCGCTGATTGTGCGGG
 CTCGGCACCGGTACCGTCATCCTCATGATTAGCCGGGGGGTGGTTATTACAGCTCCTAGT
 CTTCTCCGAGGACCTCTTCTCTTCTATCTTTTGGCCCGGATCATTTTCAATCGAGGGT
 TCCAAGTGAAGAAGAAACAGTTCTTTCGAACTTCATTACTATTACACTGTTTGGTGCA
 GTTGGCACCTTGATCTCTTTACTGTAATATCCCTTGGCGCTCTAGGACTAATATCAAG
 GCTTAATATCGGCGCACTTGAAGTGGGAGACTATCTTGCACCTTGGGGCAATATTCTCGG
 CCACAGACTCGGTTTGACACCTTGACAGGTGTTAAGCCAAGATGAGACACCATTTCTGTAC

FIGURE 3 (continued)

AGTCTTGTATTCCGGTGAAGGCGTGGTCAACGATGCCACTTCCGTAGTGGTGTTCATGC
 ACTCCAAAACCTTTGATATAACTCACATCGATGCGGAGGTTGTCTTCCATCTATTAGGAA
 ACTTCTTCTACCTCTTCTCTTATCAACTGTGTTGGGAGTGGCCACAGGACTTATCTCA
 GCGTTAGTGATTAAAAAGCTATACTTTGGACGGCACTCTACTGACAGGGAGGTGGCTCT
 TATGATGCTTATGGCGTATCTCTCTACATGTTGGCGGAACCTTCGCGCTGAGCGGGA
 TCTTGACGGTATCTTTGGGTGCATTGTTATGAGCCAATAATACATGGCACACCGTGACA
 GAGTCCAGCAGAATCACGACTAAGCATGCGTTTGCCACGCTCAGCTTCCTAGCCGAAAC
 CTTCTCTTTCTGTACGTGGGTATGGATGCTCTCGACATTGACAAGTGGAGGTCGGTGA
 GTGACACCCCGAGTAAAGTCTCTGCGCCATAAGCTCGATTTTGATGGGACTCGTGATGGTT
 GGCCGGGCTGCGCTTCGTATTCCCTCTCTCCTCTCTCCAATTTAGCGAAAAAACCGA
 GCACGAAAAAATCAGCTGGAAGCAGCAGGTGGTCATTTGGTGGGCGGGTCTCATGCGAG
 GCGCGGTTTCGATGGCCCTAGCGTACAAGAAGTTTACCCGCGCAGGGCATACTCAGGTC
 CGCGGGAACGCGATCATGATTACCAGCACGATTATCGTCGTGTTGTTTTCCACAATGGT
 TTTCCGCTGCTCACGAAGCCCTTAATTAACCTTGCTAATACCGCACCGTAACCGCACAT
 CGATGTTGAGCGATGCTCAAGCCCAAGTCTCTTGCTATAGCCCTCTGCTCAACCTCTCAA
 CTCCGTAGCGACTTAGAGGAGCCGACCAACATCCCGCGCCGAGCTCCATAAGAGGCGA
 GTTCTCTACCATGACTAGGACCGTGACCCGATATGGCGCAAGTTCGACGACGCTTCA
 TAGGCCCATGTTCCGAGGCGCGGTTTCGTACCTTTCGTGCCAGGCAGCCCGACCGAG
 CGTAATCCGCCGATCTTTCCAAGGCTTAA

SEQ ID NO 10: *Zea mays* Na⁺/H⁺ antiporter NHX1 protein

MGLGVVAELVRLGVLSSSDHASVVSINLFFVALLCACIVLGHLLLENRWVNESTALIVG
 LGTGLVILMISRGVVIHVLVFSDELFFFYLLPPIIFNAGFQVKKKQFFRNFITITLFGA
 VGTLLISFTVISLGLALGLISRLNIGALELGDYLAALGAFSATDSVCTLQVLSQDETFFLY
 SLVFGGEGVNDATSVVVFNALQNFIDITHIDAEVVFHLLGNFFYLFLSTVLGVATGLIS
 ALVIKKLYFGRHSTDREVALMMLMAYLSYMLAEFLALSGLITVFFGCIVMSHYTWHNVT
 ESSRITTKHAFATLSFLAETFLFLYVGM DALDIDKWRVSVDTPGKSLAISSILMGLVMV
 GRAAFVPLPLSPLSNLAKKTEHEKISWKQVVIWWAGLMRGAVSMALAYKKFTFRAGHTQV
 RGNAIMITSTIIIVLFSTMVFGLLTKPLINLLIIPHRNATSMLSDDSSPKSLHSPLLTSQ
 LGSDL EEPTNIPRPSSIRGEFLTMTRTVHRYWRKFDFAFMRPMFGRGFPVFPVGPSPTE
 RNPPDLSPA

SEQ ID NO 11: *Zea mays* Na⁺/H⁺ antiporter NHX2

ATGGGCCCTTGGTGTGATGCGGAGACGGTCAGGCTCGGAGTCTTAGCTCGACCTCGGA
 TCATGCCAGCGTTGTCAGTAACAACCTTCTCGTAGCACTTCTTTGGCGCTGTATCGTCC
 TCGGGCATCTCTTGAGGAGAAACCGAATGGTTAATGAGTCTATTACAGCACTGCTGGTG
 GGGCTGGGCACTGGGACCGTGATTCTGATGATTAGTCGGGGCGTGAGTATTCAGCTTCT
 CGTCTTTTTCAGAGGACCTGTTCTTTATCTATCTGTTACCTCCGATTATCTTCAATGCCG
 GGTTTCAAGTAAAGAAAAAGCAATTCTTCGCAACTTTATAACGATTATTTTGTGTTGGT
 GCTATTGGGACTCTGATTTCTTTGTAATAATCTCTCTGGTGCTATGGGGTTGTGTCAA
 GAAACTTGATGTTGGTCCACTCGAGCTTGGGGACTATCTTGCAATTGGTGCTATTTTCT
 CGGCAACAGATTCTGTTTGACCTTACAGGTGCTTAACAGGATGAAACACCCCTACTC

FIGURE 3 (continued)

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TACAGTCTCGTATTCGGCGAGGGCGTTGTTAATGATGCTACCTCAATCGTTGTGTTCAA
CGCGCTCCAAAACCTTCGACATCACCCACATCAATGCCGAGGTGGTATTTCACTCCTTG
GCAACTTCTTGTACCTCTTCTATTTAGGACCCGCTCGCGGTGGCGACCGGTCTCATC
TCCGCGCTGGTCATTAAGAAGATCTACTTCGGACGCCACTCGACTGATCGGGAAGTGGC
CTTAATGATGCTGATGGCATATCTAAGCTACATGCTGGCAGAGCTTTTGGCCGTGTCG
GAATCCTCACTGTGTTTTTTCGGCTGCATCGTCATGAGCCATTATACGTGGCACAACTGC
ACGGAGTCTAGCCGAATTACTACGAAGCAGCGCTTTGCCACCTGTCTTCTCGCTGA
GACTTTTCATATTTCTCTACGTTGGGATGGATGCGCTAGACATTGAGAAGTGGCGGTCCG
TTTCGGACACCCCGGCAAAATCGATAGCCATATCTCCATACTCATGGGGCTTGTCTATG
CTTGGACGCGCGGCTTTCGTGTTCCCGCTAAGTTTCTTGTCAAATCTGGCGAAGAAGAA
TGAGCACGAAAAGATCTCCTGGAAGCAGCAAGTTGTGATCTGCTGGAGCGGTTTGATGA
GGGGTGTCTCTATGCCCCTAGCTTATAACAAGTTTACCAGAGCCGGCCATACGGAG
GTGAGAGGTAACGAAATCATGATTACTAGCACCATTACCGTCTGTCTATTCTCCACAGT
GGTGTTCGGTCTCTGACTAAACCACTGATCAGGCTCCTTATGCCCCACGCCATCTGA
CCATGCTCTCCGACGACAGCACCCCGAAGTCATTGCACTCACTTTGCTGACATCCGAG
CTCGGAAGCTCCATCGAAGAGCCGACGCAGATACACGCCCTACAATATTCTGTGGCGA
ATTCACAACTATGACGAGAACGCTGCATAGGTACTGGAGAAAATTTGATGACAAATCA
TGCGCCCAATGTTTGGCGGCGAGGGCTTCGTACCTTCGTCCCTGGTTTACCAACGGAG
AGGAATCCCCACGATCTTTCGAAGCCCTAA

SEQ ID NO 12: *Zea mays* Na⁺/H⁺ antiporter NHX2 protein

MGLGVDAETVRLGLVLSSTSDHASVVSNNFVALLCACIVLGHLEENRMVNESITALLV
GLGTGTIVLMISRGVSIHVLVSEDLFIYLLPPIIFNAGFQVKKKQFFRNFIITILFG
AIGTLISFVIIISLGAMGLFKKLDVGPLELGDYLAIGAIFSATDSVCTQLVNLQDETPLL
YSLVFGEGVNDATSIIVFNALQNFIDITHINAEVVFHLLGNFLYFLLLSTVLGVATGLI
SALVIKKIYFGRHSTDREVALMMLMAYLSYMLAELFALSGLITVFFGCIVMSHYTHWNV
TESSRIITTKHAFATLSPLAETFIFLYVGM DALDIEKWRVSVDTPGKSIASISILMGLVM
LGRAAFVFPPLSPLSNLAKKNEHEKISWKQVVIWWSGLMRGAVSMALAYNKFTFRAGHTE
VRGNEIMITSITIVVLFSTVVFGLLTKPLIRLLMPHRHLM LMSDDSTPKSLHSPLLTSQ
LGSSIEPTQIPRPTNIRGEFTTMTRTVHRYWRKFDDKFMRFMFGGRGFVPFVPGSPTE
RNPHDLSPK

SEQ ID NO 13: *Zea mays* Na⁺/H⁺ antiporter NHX3

ATGTCAATAGGACTGACGGCCGAGACCGTGACTAACAAAGCTAGCCAGCGCCGAGCACCC
CAAAGTCGTCCCTAATCTGTGTTTATTGCGCTCCTCTGTCTGCTGGTGTAGTAGGCC
ACCTCCTTGAGGAGAACAGATGGGTCAATGAATCAATAACAGCCATTCTCGTGGGCGCT
GCGACTGGGACCGTCTCCTCTCATCTCGAAGGAAAAATCGAGCCACATACCTTGTGTT
CGATGAGGAATTGTTTTTTCATCTATCTACTGCCGCCAATTATTTTCAATGCCGGGTTTC
AAGTAAAGAAAAAGCAATTCTTCGCAACTTTATAACGATTATTTTGTGTTGCTGATT
GGGACTCTGATTTCTTTGTATAATCTCTCTTGGTGCTATGGGGTGTTCAGAAACT
TGATGTTGGTCCACTCGAGCTTGGGACTATCTTGAATTTGGTGCTATTTTCTCGGCAA
CAGATTCTGTTTGCACCTTACAGGTGCTTAACAGGATGAAACACCCCTACTCTACAGT

FIGURE 3 (continued)

CTGGTATTCCGGTGAGGGGGTTCGTGAACGACGCTACAAGTGTGTGCTGTTTAAATGCAAGT
 GCAAAAGATCGACTTTCGAACACCTTACCGGAGAGGTGGCGCTCCAGGTTTTCGGCAACT
 TCCTCTATCTGTTCTCAACCTCAACGGTCTCGGGCATAGCCACTGGGGCTCATTACCGCC
 TTCGTCCTCAAGACACTCTACTTCGCGCGCTCATAGTACTACCCGTGAGTTGGCCATTAT
 GGTCTGTATGGCCTACTTGTCTTTCATGCTTGTGCTAGTTGTTCACTCTCAGTGGTATCA
 TTACTGTTTTTTTTCTCGCGCGTGTCTCATGTCCCATGTTACTCTGGCACAATGTTACTGAG
 TCGTCCAGAAATTACCTCTCGCCATGTGTTTCGTATGCTAAGCTTCATTGCCGAAACGTT
 TTTGTTTCTGTACGTGGGGACGGACGCGCTTGACTTCACAAAGTGGAAGACGCTCTTCGT
 TATCCTTTTGGGAAGTCCCTAGGGGTATCCAGCGTGTCTCTGGGGTTGGTTCTAGTCGGT
 CGGGCGGCATTTCGTTTTCCCCCTCTCGTTCCTGAGCAACCTTAGTAAGAAACACCCTGG
 GGAAAAATCACGATCAGGCAGCAGGTTGTAATTTGGTGGGCAGGACTTATGAGGGGCG
 CCGTCAGCATCGCTTTGGCGTTCAACAAATTTACAAGGGCCGGTCACACTCAGGTAAGA
 GGAAACGCAATCATGATCACTAGCACCATCATCGTGGTGCTTTTCTCTACAGTCGTTTT
 CGGCCCTCTCACCAACCGTTAATCAACCTTCTCATACCCCATCGCAATGCAACCTCCA
 TGTGTCTGACGACTCCAGCCCTAAGTCTCTACACAGCCCACTTTAACTCCCAACTG
 ATAAGCTCAATCAGGAGAGCCACGCAATCCCGCGGCCGACAAATATACGGGGTGAGTT
 CATGACCATGACGCGAACCCTGCATCGCTATTGGCGCAAGTTTGATGACAAGTTTCATGA
 GGCCTATGTTTCGGAGGCAGGGGTTTGTCCCGTTGTCCCAGGGTCGCTACCGAAAGA
 AGCTCACCCGATCTATCCAAGGCATGA

SEQ ID NO 14: *Zea mays* Na⁺/H⁺ antiporter NHX3 protein

MSIGLTAETVTNKLASAEHPQVVPNSVFIALCLCLVIGHLEENRWVNESITAILVGA
 ATGTVILLISKGKSSHILVFDEELFFIYLLPPIIFNAGPQVKKKQFFRNFITIIILFGAI
 GTLISFVIISLGAMGLFKKLDVGPLELGDYLAIGAFSATDSVCTQLVLNQDETPLLYS
 LVFGEVGVNDATSVVLFNVAQKIDFEHLTGEVALQVGNFLYLFSTSTVLGIATGLITA
 FVLKTLYFGRHSTTRELAINVLMAYLSFMLELPSLSGIIITVFFCGVLMSHVTWHNVTE
 SSRITSRHVFAMLSFIAETFLFLYVGTDALDFTKWKTSLSLFGKSLGVSSVLLGLVLVG
 RAAVFVPLSFLSNLSKKHPGEKITIRQQVVIWWAGLMRGAVSIALAFNKFTRAGHTQVR
 GNAIMITSTIIIVLFSVTVFGLLTKPLINLLI PHRNATSMLSDDSSPKSLHSPLLTSQ
 ISSIEPTQIPRPTNIRGEFMTMTRTVHRYWRKFDDKFM RPMFGGRGFVPFVPGSPTER
 SSPDLSKA

SEQ ID NO 15: *Zea mays* Na⁺/H⁺ antiporter NHX4

ATGGGGTATCAGGTCGTCGCCGCGAGCTGAAGCTGGCTTCTCAGCTGACCACGCAAG
 CGTGGTTATCATCAGCTCTTCGTGGCCCTCCTCTGCGCTTGCCATAGTGTGGGCCATC
 TTCTTGAAGAGAATCGCTGGCTAAACGAATCAATTACAGCATTGATAATCGGGCTCGGA
 ACGGGGGTTGTGATTCTATTGATCAGCCGAGGTAAGAACAGCCGCTGCTTGTGTTCTC
 GGAGGACCTCTTCTCATCTATCTATTGCGGCCCATTTATTTCAATGCCCGGGTTCAGG
 TGAAGAAGAAACAGTTCTTCGGAATTTTCATGACAATCACATATTCGGTGCTGTTGGC
 ACAATGATATCTTCTTCACAATCTCTCTCGGCGCAATAGCGCAATTCAGCAGAAATGAG
 CATTGGGACGCTAGATGTCGGGGATTCTTCGCTATTGGAGCTATCTTTTCTGCAACGG
 ATTCTGTGTGACGCTGCAGGTCCTCCATCAGGATGAGACGCCCTTTCTGTACAGTCTG

FIGURE 3 (continued)

GTATTCGEGGAGGGCGTAGTGAAACGATGCCACAAGTGTGTACTCTTCAACGCAGTTCA
 GAAGATCCAGTTTCACCACATAAAATGCATGGACAGCTCTCCAGTGATCGGTAACCTTTC
 TTTACCTCTTCTCCACGAGTACACTGCTCGETATCGGGACCGGCTTGATCACAGCGTTT
 GTCCTGAAGAAGTTGTATTTTCGCGAGGCATCCACTACCCGGGAGCTTGCATCATGAT
 CTTAATGGCCTACCTGTATCATATGCTTGCCGAGTTGTTTAGTCTGTCCGGGCTCCTCA
 CGGTCTTTTCTGTGGCGTGCTAATGTCTCATGTCAATGGCATAATGTTACGGAGTCC
 AGCAGGACAACACGCCGTACAGTGTTCGCGACGCTCTCGTTCATATCTGAGACTTTCAT
 ATTCCTGTATGTGGGCATGGACGCACTCGATTTCGAGAAGTGAAGACCTCATCATTAA
 GCTTCGGTGGGACCTGGGAGTTAGTGGAGTACTCATGGGCTGGTCATGCTAGGCAGA
 GCTGCTTTTGCTTTCTCTCTCTCTCTCTCTCCAACCTCGCCAAGAAACACCAAAGTGA
 GAAAATTTCTTTTAGGATGCAAGTTGTGATTTGGTGGGCGGGTCTAATGCGCGCGCGG
 TTTCCATGGCCTTGGCGTTGAACAAATTCACGCGAGCGGCCACCCAGCTACATGGC
 AATGCTATCATGATAACTTCAACCATTACCGTGGTGTCTTCTCTACGATGGTCTTTGG
 CATGATTACAAAGCCACTGATCAGGCTGCTTTTGGCTGCGCTCGGACATCCGAGAGAAT
 TATCGGAACCGTCTGTCACCCAGAGCTTCCATAGTCTCTTCTTACCTCGAACAGGGA
 TCTGACCTGGAGTCGACAACCAATATAGTCCGTCCCTCCTCACTTAGGGGGCTCCTCAC
 TAAACCAACTCACACGGTGCCTACTACTGCGGGAAGTTCGATGACGCACTTATGAGAC
 CGGTGTTTCGGGGGACGTGGTTTCGTGCCATTGTTCCCGGCAGCCCAACCGAGCGAAAT
 CCACCCGATCTGTCCAAAGCTGA

SEQ ID NO 16: *Zea mays* Na⁺/H⁺ antiporter NHX4 protein

MGYQVVAQKLASSADHASVVIITLFLVALLCACIVLGHLLLENRWLNESITALIIGLG
 TGVVILLISRGKNSRLLVFSEDLFFIYLLPPIIFNAGFQVKKQFFRNFMTITLFGAVG
 TMISFFTISLGAITATPSRMSIGTLDVGDPLAIGAFSATDSVCTLQVLHQDETPLYLSL
 VFGEGVVDNATSVVLFNVAQKIQFTHINAWTALQLIGNFLYLFSTSTLLGIGTGLITAF
 VLKXLYFGRHSTTRELAIMILMAYLSYMLAEFLSLGLLTVFFCGVLMSHVTWHNVTES
 SRTTSRHVFATLSFISETFIFLYVGM DALDPEKWKTSLSFGGTLGVSGVLMGLVLMGR
 AAFVPLSFLSNLAKKHQSEKISFRMQVVIWAGLMRGAVSMALALNKFTRSGHTQLHG
 NAIMITSTITVVLFSMTVMFGMITKPLIRLLLPASGHPRELSEPSPKSFHSPLLTSQQG
 SDLESTNI VRPSSLRGLLTKPHTVHYWYRKFDDALMRPVFVGGRGFVPFVPGSPTERN
 PPDLSKA

SEQ ID NO 17: *Hordeum vulgare* HvNHX1

AACGGAACCTTCTCCAGATACCCCGCCGCGGAAAGAATAGAGGAGAATCCCGACCT
 CCCC GCCGCGCGGCTGCGCATCTGCCCCCTCTTCTCCCTCTCGCTCCCCACCCC
 GGGTTTCCCGTGCCATTCTTCCCTCCCCACCCCGCGCCGCGGACGAGCAGCGCGG
 AGACGGGGCCAGGAGGAGGAGCTCGGCTGTCTCTCGTCTCCCCGTGATTCTGCTC
 CGGATTAGCGCCGCGGCCGTTCCCCGAGGGCTCGTCCGGGTGATTTCGATCTGATTG
 AAAAGCCCGCTCTTCCCCGAGGCGCGCTCGCTCGCCGAGCTAGCTGTGTCTC
 GTTCGCGCGGCTCAAGGAAGAAGAGTAACGGGCGGGATGCGCTTCAAGTGGTGGCGG
 CGCAGTTGGCGCGGCTGAGCGACGCGCTGGCCACCTCGGACCAACGCTCCGTGGTCTCC
 ATCAACCTCTCTGTCGCGCTGCTCTGCGCTGCTATCGTCTCGGCCACCTCTCGAGGA

FIGURE 3 (continued)

GAACCGCTGGCTCAACGAGTCCATCACGCCCTCATCATCGGGCTGTGCACCGCGTGG
 TGATCCTGATGACCACCAAGGGGAAGAGCTCGCACGTGCTCGTCTTCAGCGAGGACCTC
 TTCTTCATATACCTCTCTCCCTCCCATCATCTTCAACGCCGGTTTCCAGGTGAAGAAGAA
 GCAGTTCTTCCGGAATTTTCATGACAATCACATTATTCGGCGCTGTGCGGACCATGATT
 CATCTCTCACAATCTCTCTTGTGCTGCCATTGCGATATTCAGCAAGATGAACATTGGGACA
 CTGGATGTATCAGATTTTCTCGCAATTTGGAGCCATCTTTTCCGCGACAGATTCTGTCTG
 CACTTTACAGGTTCTCAATCAGGACGAGACGCCCTTTCTGTACAGTCTAGTTTTCGGGG
 AAGTGTGTGGAACGATGCCACATCAGTCTGTCTTTTCAACGCCGCTCCAGCAATTCGAT
 CCTAACCAAAATCGATGCAATCGTCATTCTGAAGTCTTGGGAAACTTCTGCTACTTATT
 CGTGTCAAGCACCTTCTCTGGAGTATTTCTGGATTGCTCAGTGCATACATAATCAAGA
 AGTTATACATAGGAAGGCATTCTACTGACCGTGAGGTTGCGCTTGCCTCATGCTCATGGCC
 TACCTCTCATATATGTAGCTGAGCTGCTTGATTGAGTGGCATCCTCACCGTGTCTTT
 CTGTGGTATTGTGATGTGCGATTATACTTGGCATAATGTGACAGAGAGCTCAAGAGTTA
 CAACAAAGCATGCTTTTGCAACCTTGTCTTCAATGCTGAGACCTTCTCTCTCTTTAT
 GTTGGGATGGATGCACTGGATATCGAGAAGTGGAAATTTGCTAGTGACAGCCCTGGCAA
 ATCCATCGGAATAAGCTCAATTTTGCTAGGATTAGTTCTGGTTGGAGAGCTGCTTTTG
 TCTTCCCGCTTTTCATTCTTATCCAACTGACAAAGAAGACGGAGCTCGAAAAATAAGC
 TGGAGGCAGCAAATGTAAATATGGTGGGCTGGGCTGATGAGAGGAGCTGTGTGATCGC
 TCTGTCTTACAATAAGTTTACAAGATCTGGCCACACAGCTACCGGCAACGGCAGATAA
 TGATCACCAGCACCATCACTGTGCTTCTGTTAGCACTATGCTGTTGTGATGCTATTGACA
 AAGCTCTGATCCGTTCTCTGTGCTGCCGCTGAGCAATGGCGACCCCTCGGAGCCCTC
 GTCACCGAAGTCCCTGCACTCTCTCTCTCACAAGCATGCTAGGCTCGGACATGGAGG
 CGCCTCTCCCCATCGTCAGGCCCTCCAGCCTCCGATGCTCATCAACGCGGACCCAC
 ACCATCCACTACTACTGGCGCAAGTTCGACGACGCGCTGATGCTCTATGTTCCGGCG
 GCGCGGGTTCTGTCCCTACTCCCTGGATCACCCACCGATCCAAACGTAATCGTGGCAT
 GAACGTTGTGGAGAGAAGAAGAAAGCCATTACAGCTTCAGGAGACACTCTGAAGTGTG
 TAACTGGAAGAGAAGGAGGTGCTACAGCTTCGGAAGAAGCGAAGTCTCCATTACTATT
 ATAGTGTGTGGCTGACTCGGAGGGCCGAAGAAGCGCCCTCTGACGATGGTTAGATG
 AACGGTTGGTTGGCGCACCAACAGGAAGATGAACCCCTAGTAACGGTGATGCGAGTACCA
 TCGCCTTATCGGTTACGACCAAGCCTGTACATTTTGTATGTAGATTAAACAGCCAATTG
 TACCCTATGAGATGAGATCTCCTCTGGCAGGCAGGCAGGCCATTTCTTGTCTCTTGGC
 TAGGAGTCTCTGGCTCTCTGCATATCTACAGTGCTTATTAATCTCTCCCCCACTTTC
 TAGTGGATTGGTGTAAATGGTGTGACTTTACCAAGTTGTGTGAGATGAGTGTATCTT
 GTGGCCTGGTTGCTACAAGAACTCATCTCAAAGTTATCTATCTATTTTCTATATTGAA
 TTGAAGTGAAGTTGTGTCTTGAACCAAC

SEQ ID NO 18: *Hordeum vulgare* HvNHX1 protein

MAFEVVAQLARLSDALATSDHASVVSINLFVALLCACIVLGHLLLEENRWLNESITALI
 IGLCTGVVILMTTKGKSSHVLFSEDLFFIYLLPPIIFNAGFQVKKKQFRNFMITLFL
 GAVGTMISFPPTISLAAIAIFSKMNI GTLDVSDFLAIGAFSATDSVCTQLVNLQDETFF
 LYSLVFGEGVVDNATSVVLFNALQNFDPNQIDAIVILKFLGNFCYLFVSSSTFLGVFPSGL
 LSAYIIKKLYIGRHSTPREVALMMLMAYLSYMLAEELDLSGLITVFFCGIVMSHYTWHN

FIGURE 3 (continued)

VTESSRVTTKHAFATLSFIAETFLFLYVGMDALDIEKWKFPASDSPGKSIGISSILLGLV
 LVGRAAPVPLSFLSNLTKKTELEKISWRQQIVIWAGLMRGAVSIALAYNKETRSRGHT
 QLHGNAIMI TSTITVVLFSMTLFGILT KPLIRFLLPASSNGDPSEPPSPKLSHSPLLTS
 MLGSDMEAPLPPIVRPSSRLMITKPTHITHYWRKFDDALMRPMFGRGRFVPSYSPGSPT
 DPNVIVA

SEQ ID NO 19: *Triticum aestivum* NHX2

ATGGGGTACCAAGTGGTGGCGCGCAGCTGGCGCGGCTGAGCGGCGCGCTGGGCACCTC
 GGACCACGCTCCGTGGTCTCCATCACCTCTTCGTGCGGCTGCTCTGCGCCTGCATCG
 TCCTCGGCCACCTGCTCGAGGAGAACCGCTGGCTCAACGAGTCCATCACCGCCCTCATC
 ATCGGGCTGTGCACCGGCGTGGTATCTGATGACCACCAAGGGGAAGAGCTCGCACGT
 GCTCGTCTTCAGCGAGGACCTCTCTTCATCTACCTCCTGCTCCCATCATCTTCAACG
 CCGGTTCCAGGTGAAGAAGAAGCAGTCTTCCGGAATTCATGGCAATCACACTATTT
 GGTGCGGTTGGGACGATGATGTCGTTTTTCACAATATCTCTGCTGCCATTGCGATATT
 CAGCAGGATGAACATTGGGACACTGGATGTATCAGATTTTCTTGCAATTGGAGCTATCT
 TTTCCGCGACAGATTCTGTCTGCACTCTACAGGTTCTCAATCAGGACGAGACGCCCTTT
 TTGTACAGTCTAGTGTTCGGGGAAGGTGTGTGAACGATGCCACATCGGCTGCTGTTTT
 CAACGCGCTCCAGAACTTCGATCTAACCCAGATCGACGCGATCGTCATTCTTAAGTTCT
 TGGGGAACCTCTGCTACTTATTGCGTGCAAGCACCTTCTTGGAGTGTCTTACTGGATTG
 CTTAGTGCAATACGTATCAAGAAGTTATACATAGGAAGGCATTCTACTGACCGTGAGGT
 CGCACTTGTGATGCTCATGGCTACCTCTCATATATGCTAGCTGAGCTGTAGATTGTA
 GTGGTATCCTCACTGTATTCTTGTGGTATTGTGATGTACATTACACCTGGCACAAC
 GTGACAGAGACTCAAGAGTTACAACAAGCATGCATTGCAACCTTGTCTTTCATCGC
 TGAGACTTTTCTCTCTTCTTATGTTGGGATGGATGCACTGGATATTGAGAAGTGGAAAT
 TTGCTAGTGACAGCCCCGGCAAATCCATTGGAATAAGCTCAATTTTGTCTCGGGTTGGTT
 CTGGTTGGAAGAGCTGCTTTCGTCTTCCGCTCTCGTTCTTATCCAACCTGACAAAAGAA
 GACGAGCTCGAAAAAATAAGCTGGAGGCGCAAAATCGTAATATGGTGGCTGGGCTGA
 TGAGAGGAGCTGTGTGTCATCGCTTGTCTTACAATAAGTTTACAAGATCTGGTCACACA
 CAGCTGACCGGCAACGCGATAATGATCACCAGCACCATCACTGTCGTTCTGTTTAGCA
 TATGTTGTTTGGCATTTTGACAAGCCTCTGATCCGGTTCCTACTGCCCCGCTCGAGCA
 ATGGCGCGCCTCAGATCCCGGCTACCGAAGTCCCTGCATCTCTCTCTCTCAACAAGC
 CAGCTAGGCTCGGACCTGGAGGCGCCTCTCCCCATCGTGAGGCGCTCCAGCTCCGGAT
 GCTCATCAACAAGCCGACCCACACCTCCTACTACTGGCGCAAGTTTGACGACGCGC
 TGATGCGCCCCGATGTTTCGGAGGGCGCGGGTTCGTGCCCTACTCCCAAGGATCACCCAC
 GATCCGAACGTAATCTCGGGAATGAACGTTCGGAAGAAGCAACGGAGAAGCCATTACAGC
 TTCAGGAGACACTCTGAAGTGTAAACAGGAAGGGAAGGTGTACAGCTTCAGAAGAA
 CGCGAAGTCTCCGGTAATATTATAGCGTTTGGCAGACTCGGAAGGCTGAAGAAGGCGGC
 CCTCCGATGATGGTTTTCAGATGAACGGTTGGTTGCGGCACCGACAGGAAGATGAACCTTA
 GTAACGGTGATGCGAGTATCATCATCGCCTTATCGGTTACGACAAAGCCTGTACAGGTTT
 TGTATGTAGATTAAACAAGCAATTGTATCTATGAGATCTCCGTTGGCAGGCAGCGGCTC
 TGACCTCCTGCATCTGCGACGACCGCGGCTGGCCAAGGCCGGGTGCGGGCGGTCGTAC
 GCGCCGTTCCCGCCCGGGTGATGTTCCACAGCGAGGGCGGGCTCAAGAGCTTCGAGCA
 CCCCATGAACCGCCTTAAGGCGCTCCCCAGGGTGACAGCGAGGGCGTCATGTGCGGCG

FIGURE 3 (continued)

CCAACTTCAAGGTCGACGCCTTCACCAAGATCAACTCCATGCCCCGCGTCGCGAGCGCC
 ACCAACTGGGGCGCGCCTGGGACGACGCCCATCTGATCCTCGCGCGCGCGCGGCTT
 GCTCTCCGTCGTGGCCTCGTCGGGCTTGGGCTTATTGCATTTTACTGTTTCTTTCTTCC
 TTGGCAATGTACATTCTGATCTGATCTGATCTGAGCCGTGTGTGGGCGTGGCGCGCTG
 GCAGTACGGCTGTTTGCTTGACGATGGAGGAATAAGACTTTGCTTCCAGTCCAAAAA
 AAA

SEQ ID NO 20: *Triticum aestivum* NHX2 protein

MGYQVVAQLARLSGALGTS DHASVVSITLFPVALLCACIVLGHLLLENRWLNESITALI
 IGLCTGVVILMTTKGKSSHVLVFSEDLFFIYLLPPIIFNAGFQVKKKQFFRNFMAITLF
 GAVGTMMSPFTISLAAIAIFSRMNIGTLDVSDFLAIGAIFSATDSVCTLQVLNQDETFF
 LYSLVFEGGVNDATSVVLFNALQNFDPNQIDAIVILKFLGNFCYLFVSSITFLGVFTGL
 LSAYVIKKLYGRHSTDREVALVMLMAYLSYMLAELLDSGILTVPFCGIVMSHYTWHN
 VTSSRVTTKHAFTLSFIAETFLFLYVGMALDIEKWKFPASDSPGKSGIGISSILLGLV
 LVGRAAFVFPPLSFLSNLTKKTELEKISWRQQIVIWAGLMRGAVSIALAYNKFTRSGHT
 QLHGNAIMITSTITVVLFSITMLFGILTKPLIRFLLPASSNGAASDPASPKSLHSPLLTS
 QLGSDLEAPLP IVRPSSLRMLITKPTHITHYWRKFDALMRPMFGGRGVPVSPSGSPT
 DPNVLVE

SEQ ID NO 21: *Oryza sativa* NHX2

GGTGGCCATCTCGCTTGAATCTGCAGGCTGAGCTGAGGAGGATCCACTGAGGTGGCGGC
 GGTGAGATGGGGCTGGATTGGGAGCTCTCGTTCTCAAATCCGGCGGGCTGTGGGTGT
 CGGACTACGACTCGATCGTCGCGATCAACATCTTCGTGGCGCTGCTGTGACGATGCATT
 GTGATCGGGCACCTGCTGGAAGGGAACCGGTGGGTCAATGAATCCATCACCGCGCTTG
 CATGGGGCTGATCACTGGAGGTGTGATTCTGCTCGTCAGTGGTGGGAAGAACTCGCACA
 TCTCTGTGTTACAGTGAAGGACCTCTCTCTCATTATTGCTTCCACCGATCATCTTTAAT
 GCTGGGTTTCAAGTAAAGAAAAACAATTCTTCCGCAATTTATGACAAATATTATTATT
 TGGTGCTGTGGGGACATTGATATCCTTTGTGATAATCTCTCTAGGTGCCATGACATTGT
 TCAAAAAACATTGATGTTGGTCCACTCCAGCTTGGGGACTATCTTGAATTGGGGCTATC
 TTCTCAGCAACAGATTCTGTTTGACCTTACAGGTGCTTAACCAAGACGAAACACCCCT
 ACTCTATAGTCTGGTTTTTGGTGAAGGGGTGTCAATGATGCTACATCTGTTGTGCTCT
 TTAATGCAATTGAAGACATTGATATTGCTAAATTTGATAGCCTTGTCTACTAGCGTTC
 ATAGGAAATTTCTCTACCTATTCTTACCAGTACCCTTCTGGAGTAGTTGCTGGGTT
 GCTTAGTGCTATATTATTAAGAACTATGTTTGGCAGACACTCACTGACAGAGAAG
 TTGCTATCATGATACTACGCGGTACCTTTTATATATGCTGTGATGCTGTGATCTG
 AGTGGCATCTCAGCTGTGTTCTTCTCGGAATAGTAATGTCACATTACACTTGGCATAA
 TGTGACAGAAAGCTCTAGGATTACTACCAAGCACACTTTTGCTACTTTATCTTTTATTG
 CTGAAATTTTCTATTCTCTATGTTGGGATGGATGCACTGGACATTGAAAAATGGAAA
 TTAGTAGCAGCAGCTCTCAAAAAACCAATTGCTTTAAGTGCAACTATATTGGGCTTGGT
 TATGTTTGAAGAGCAGCATTGTATTCCCTTTGCTCTTTCTTATCCAATCTAAGTAAAA
 AAGAGACAGCCCCAAGATCTCCTTCAAGCAGCAAGTAATCATATGGTGGGCGGCTCTC
 ATGAGAGGAGCAGTATCAATGCACTTGCCCTATCACAAGTTCACCGCATCTGGTCATAC

FIGURE 3 (continued)

TGAATTGCGAATCAATGCTATCATGATCACCAGCACAGTCATTGTTGTTCTGTTTCAGCA
 CAATGGTTTTTGGTTTTTTTACCAAGCCTCTCCTCAATCTCCTCATCCCACCAAGGCCT
 GACATAGCAGCTGATCTCTCAAGCCAGTCAATCATAGACCCACTTCTTGGGAAGCTGCT
 GGGGTCTGACTTCGATGTAGGCCAGCCCTCCCCTCAGAACAACCTTCAGCTTCTTCTCA
 CCATTACAGACTCGCTCCGTTTCATCGCGTGTGGCGCAAGTTTGATGATAGATTTCATGCGC
 CCGATGTTTCGGGGCGCCAGGCTTCGTTCTCTTCGTGCTGTTTCCGAGTGGAGCGGAG
 CATCCATGGATCTCAACTGGGCACTGTGACTGAGGCTGAACATAGCTGAGTTTGAGGTT
 CAGAAGGTGCAAGCA

SEQ ID NO 22: *Oryza sativa* NHX2 protein

MGLDLGALVLKSGGLLVSDYDSIVAINIFVALLCSCIVIGHLLEGNRWVNESITALVMG
 LITGCVILLVSGGKNSHILVFSEDLFFIYLLPPIIFNAGFQVKKQFFRNFMTIILPGA
 VGLTISFVVIISLGAMTLFKKLDVGPLQLGDYLAIGAIFSATDSVCTLQVLNQDETPLY
 SLVFGEGVNDATSVVLFNAIEDIDIANFDSLVLALFIGNFLYLFSTLLGVVAGLLS
 AYIIKKLCFARHSTDREVAIMILMAYLSYMLSMLLDLGSLTVFSGIVMSHYTWNHVT
 ESSRITTKHFTATLSFIAEIPFLFLVVGMDALDIEKWKCLASSSPKKPIALSATILGLVMV
 GRAAFVFPPLSFLSNLSKKETRPKISPKQQVIIWAGLMRGAVSIALVHKFTASGHTL
 RINAIMITSVIIVFLFTSMVFGFFTKPLLNLIPPRPDIAADLSSQSIIDPLGLSLLS
 DFDVQGQSPQNNLQLLLTITQTRSVHRVWRKFDPRFMRPMFGRGFVFPVPGSPVERSIH
 GSQLGTVTEAEHS

SEQ ID NO 23: *Saccharomyces cerevisiae*

ATGCTATCCAAGGTATTGCTGAATATAGCTTTCAAGTGCTGTTAAACCACCGCCAAGAG
 AGCAGTTGATCCTGACGATGATGATGAACCTTCACTCTCCCGGATCTCCCGGGTAGCG
 ATGACCTATATGCAAGGTATCCTGATGTAGACTTAAACCTGTTACAGAAACCAATGTTCT
 TCTTCATGGGCATTGTTCAATTATGTTGCTCCTATTGATCTCTGCATTGTGGTCTAGTTA
 CTATTTAACTCAGAAACGAATTAGGGCAGTGATGAACTGTGCTTTCTATTTTTATG
 GTATGGTTATTTGGCTGTATAAAGGATGTCCCCCGGGCATTATATCAAGATACGGTT
 ACTTTTAATTCATCCTACTTTTTTAATGTTCTATTGCCGCCAATTATTTTAAATAGTGG
 GTACGAGTTGAATCAAGTGAACCTTTTCAATAATATGTTATCTATCTTAATTTTCGCCA
 TACCGGGCACCTTCATATCTGCTGTGGTTATTGGAATCATATTGTATATCTGGACCTTT
 TTAGGACTAGAGGATTGACATTTCAATTCGCAGATGCAATGTCTGTTGGTGCTACATT
 ATCTGCTACCGACCTGTACAATCTTTCAATTTTCAATGCGTATAAAGTGGATCCTA
 AGCTATATACCATCATTTTGGAGAATCACTGTTAAATGATGCCATCTCTATTGTTATG
 TTTGAAACCTGTCAAAAAATTCATGGTCAACCTGCAACATTTTCGTGCGTTTTTGAAGG
 GGCAGGCCCTCTTTTGTAGACTTTCTCGTTTCGTTGTTGATAGGCGTCTCTTATAGGAA
 TTCTTGTGTCTCTTCTGTTGAAACACACTCACATAAGGCGCTATCCTCAAAATGAGAGT
 TGTTTGATCTCTGTTGATGCTTATGAATCCTATTTTTTCTCCAACGGTTGCCATATGTC
 CGGTATCGTCTCCTTGTATTATTTTGCAGAACTACTTTAAAAACATTACGCCTATTATAACA
 TGTCAAGAAGATCACAGATCACCATTAAGTATATTTTCCAACATTGGCAAGATTATCA
 GAGAAATTCATCTTATCTATCTAGGTTTAGAACTTTTACTGAAGTAGAACTAGTCTA
 TAAGCCACTGCTAATTATTGTGGCAGCTATTTCTATATGTGTTGCTCGTTGGTGTGCTG

FIGURE 3 (continued)

TGTTCCCAATTGTGCGCAATTGTTAAC TGGATATATAGAGTAAAGACAATCAGATCTATG
 AGCGGCAATAACCGGAGAAAATATTTCTGTTCCCGATGAAATACCCCTACAATTACCAAAT
 GATGACATTTTGGGCAGGTTTACGTGGTGCTGTTGGTGTGCGCTTGGCGTTGGGAATTC
 AAGGTGAGTATAAGTTCACCTTTATTGGCAACGGTCCTTGTGTTGTTGTTTAAACAGTT
 ATCATTTTGGGGGCACTACTGCGAGGAATGTTAGAAGTTTAAATATTAAGACTGGTGTG
 CATAAAGTGAAGAAGATACATCTGATGACGAGTTTGATATAGAGGCTCCAAGGCGGATAA
 ATTTATTGAACGGTAGTTCTATTTCAGACAGATTGGGGCCATATTCTGACAACAATTC
 CCAGATATTTCAATTGACCAATTCGCGGTGAGCAGTAACAAGAATCTCCCAATAACAT
 ATCCACAACCTGGTGGTAATACTTTTGAGGCCTTAATGAAACTGAGAATACTAGCCCTTA
 ACCCGGCAAGCTCTTCTATGGATAAGCGTAATTTGAGAGATAAACTGGGAACAATCTT
 AATTCGAGCTCACATGGTTTCAAAATTTGATGAACAGGTATTGAAGCCAGTATTCTT
 GGACAACGTTTCTCCATCCTTACAAGATTGCGGTACGCAATCACCTGCAGATTCTCTT
 CCCAAACCACTAG

SEQ ID NO 24: *Saccharomyces cerevisiae* protein

MLSKVLLNIAFKVLLTTAKRAVDPDDDELPS PDLPGSDDPDVGDPDVLNVPVTEEMF
 SSWALFIMLLLLISALWSSYYLTQKRIRAVHETVLSIFYGMVIGLIIRMSPGHYIQDTV
 FNSSYFFNVLPPILNLSGVELNQVNFNMLSILIFAIPGTFSIAVVGIIILYIWT
 LGLESIDISFADAMSVGATLSATDPVILSIFNAYKVDPKLYTIIFGESLLNDAISIVM
 FETCQKFGHQPFATSSVFEGAGLFLMTFVSLLIGVLIGILVALLKHTHIRRYPQIES
 CLILLIAYESYFFSNGCHMSGIVSLLFCGITLKHAYYNNMRRSQITIKYI FQLLARLS
 ENFIFIYLGLELFTEVELVYKPLLIIVAAISICVARWCAVFPLSQFVNWIYRVKTIRSM
 SGITGENISVPDEIPYNYQMFTFWAGLRGAVGVVALALGIQGEYKFTLLATVLVVVVLTV
 IIFGGTTAGMLEVLNKTGCISEEDTSDEFDIEAPRAINLNGSSIQTDLGPYSDDNS
 PDISIDQFAVSSNKNLPNNISTTGGNTFGLNETENTSPNPARSSMDKRNLRDLKGTIF
 NSDSQWFQNFDEQVLKPVFLDNVSPSLQDSATQSPADFSSQNH

SEQ ID NO 25: *Magnaporthe grisea*

ATGACTTTCGATATCGCCGCGCAACCTCCTGGAGCTCACCAGGCGCGCTGCCGAGGAACC
 CGAACCTGGAGGAATGCGAGTTGGCCTTGCCCTGCGAGTGTTTGCCGTGATGGACTCC
 AGGACCTCGTCAGCTTCGATTACCAAATCTTCTCAACCTCCTCCTTCCACCCATCATC
 CTCTCGTCCGGCTACGAGTTACATCAGGCCAAGTTCTTCCGGGCATCGGAACAATTC
 CACGTTCCGATTTGCTGCGACGTTCTGTCTGCGAGTAGTCATCGGTGTTATACATATGCG
 TTACACTCGCGTACCCCTCGAGGGGCTCACCATGAAGTGGATCGATGCCATATCTGTT
 GGCGCAACTTTGTGAGCTACCGATCCTGTCAACATCATAGCCATCTTCAACTCGTACAA
 GGTGGACCGAAGCTGTATACCATCATCTTTGGAGAGGCCATCTCAATGACGCTGTGG
 CCATTGTCATCTTCGAGTCGGCGCAAAAGTCCGCCAGGGGCTTGACCAAAGGCGAGCGCT
 GCTGGCATCTACCTTCTCTGGGGTTTCTGGATTTTCTTGAGGGACTTCTTCGGCAG
 CTTGTTTCATCGGGGCGCTTCTGGCATCCTCACCGCGCTCATGCTCAAGTACACGTACC
 TCAGGAGGTTTCCCAAGCTGGAGAGCTGCTTATGTTGCTTATGCTTACGCCACGTAC
 TACTTTTCCAGGCCATACATGTCTGGAATGTGTCACTGTTGTTCTCGGGAATCAC
 ACTCAAACTATGCATACTTCAACATGTGCGGAAGAACTCAGCTTACGACCAAGTACA

FIGURE 3 (continued)

TGTTCCAGGTCTCTCGCACAACTGTCTGAGAACTTTATCTTTATTACCTGGGTGTTTCC
 CTCTTTTACGGACAAGGATCTCCAGTTCAGCCCCCTCCTCATCTGTCACTGTCACTGGC
 GGTGTGCGCAGCTCGCTGGGTGCGGTATTTCCCACTCTCGTGGGCCATCAACTGGTTCC
 ACAAGTACCGGGCAGAAAGACGTGGCATCAAGAACGTGCCCGAGGAGCTGCCGTACAAG
 TACCAAGGCATGCTGTTCTGGGCAGGGTTCGCTGGAGCGGTCCGTGTTGCCCTGGCCGC
 GTTGTGACGGCCAAAGGACACCGCTGCATTCAAGCGCACCGTCTCGTGTGTGGTGGTGC
 TCACTGTCTCATATTTGGTGGCACTACGGTCAACGTGCTTGAATCCTCGAGATCCGC
 ACGGCAGTGACGGATGAGATCGATTCTGACGATGAATTCGACATCGAGGCAAGTTGGGGG
 CTACTACAAGCGATCGGGTAACGGAATAGGTTATAGCCCGCGCCGGCGCAATGGTGTG
 TGCCCCGTGGACACACGTCCAGGTCCGAGACGTGACAGTAATGGCGCCGTCCGTGGAAGA
 GACGCGAGCGGCTGGAGCTCAGGACATAGATCTCCCTTGAGTGGCGCAAGGCCTGGCAG
 TCTCGTCCGTACAGGGTCAACACGCGAAGAAGCGGAAAGACTGGACCTCCTTGGCAACC
 CGGGCGGCTCGACAGACTCGGATGACTTTGGGAGCGACATTGACACGTCCGACCTGCCG
 CCACAGCCCCCTAGGAGACGATCCAGCCCCAATGCCGCCATCGGGCGACGAAGAGGCAGC
 TGGTTTCCAGCGGGGGGAGCAGGACAAGTCAAGTCAACACAGAGACGGGTGGCTTGTCCG
 CCACGGCCGCGATCCGCCAGCTGTTGACGACCGAGGCCAACACGCTGTTGAGGACG
 CTGGACGAGGACTACATCAAAACCGAAGCTACTGCTCGATGGCGGTGCCGCCGTGGGAA
 CGGTGGTGGCGCTGGCGGATCGAGTTAG

SEQ ID NO 26: *Magnaporthe grisea* protein

MTFDIAGNLLLELRRAAEEPEPGMAVGLALRVFAVDGLQDLVSFDYQIFNLLLPPII
 LSSGYELHQANFFRHIGTILTFAGATFLSAVIGVILWLYTRVPLEGLTMNWIDAISV
 GATLSATDPVTIIAIFNSYKVPKLYTIIIFGEAILNDAVAIVIFESAQKSARGLTKGSA
 AGISTFFWGFWIFLRDFFGSLFIGALLGILTALMLKTYLRRFPKLESLIVLIAYATY
 YFSQAIHMSGIVSLLFCGITLKHAYFNMSSRTQLTTKYMFOVLAQLSENFIIFYLGVS
 LFTDKDLQFQPLLIIVTMVAVCAARWVAVFPLSWAINWFHKYRAERRGIKNVPEELPYK
 YQGMLFWAGLRGAVGVALAALLTAKDHRAFKATVLVVVLTVIIFGGTTNVNLEILEIR
 TGVTDDEIDSDDEFDIEAVGGYKRSNGIGYSPAGRNVVPLDTRPERRRDSNAGVGR
 DASGWSSGHRSPLSAARPGSLVRTGSTREEAERLDLLGNPGGSTDSDDFGSDIDTSDLP
 PAPRRRRSSPMPPTGDEEAAGLPAGGSRTSRNTETGGLSATAAIRQLFSTEDPTALFRQ
 LDEYIKPKLLLDGGAGRGNGGGAGGSS

SEQ ID NO 27: Prolamine promoter

CTTCTACATCGGCTTAGGTGTAGCAACACGACTTTATTATTATTATTATTATTATTATT
 ATTATTTTACAAAAATATAAAATAGATCAGTCCCTCACCACAAGTAGAGCAAGTTGGTG
 AGTTATTGTAAAGTTCTACAAAGCTAATTAAAAAGTTATTGCATTAACCTATTTCATAT
 TACAAACAAGAGTGTCAATGGAACAATGAAAACCATATGACATACATATAATTTTGTGTT
 TATTATTGAAATTATATAATTCAAAGAGAATAAATCCACATAGCCGTAAAGTTCTACAT
 GTGGTGCAATTACCAAAATATATATAGCTTACAAAACATGACAAGCTTAGTTTGAAAAAT
 TGCAATCCTTATGACATTGACACATAAAGTGAGTGAGTCAATATAATTATTATTTCTTT
 GCTACCCATCATGTATATATGATAGCCACAAAGTTACTTTGATGATGATATCAAGAAG
 ATTTTTAGGTGCACCTAACAGAATATCCAAATAATATGACTCACTTAGATCATAATAGA

FIGURE 3 (continued)

17/17 Replacement Sheet

GCATCAAGTAAACTAACACTCTAAAGCAACCGATGGGAAAGCATCTATAAATAGACAA
GCACAATGAAAAATCCTCATCATCCTTCACCACAATTCAAATATTATAGTTGAAGCATAG
TAGTA

SEQ ID NO 28: Ubiquitin promoter without first intron

GATAATGAGCATTGCATGTCTAAGTTATAAAAAATTACCACATATTTTTTTGTGCACAC
TTGTTTGAAGTGCAGTTTATCTATCTTTATACATATATTTAAACTTTACTCTACGAATA
ATATAATCTATAGTACTACAATAATATCAGTGTTTTAGAGAATCATATAAATGAACAGT
TAGACATGGTCTAAAGGACAATTGAGTATTTTGACAACAGGACTCTACAGTTTATCTT
TTTAGTGTCATGTGTTCTCCTTTTTTTTGCAAATAGCTTCACCTATATAAATACTTCA
TCCATTTTATTAGTACATCCATTAGGGTTTAGGGTTAATGGTTTTTATAGACTAATTT
TTTTAGTACATCTATTTTATTCTATTTTAGCCTCTAAATTAAGAAAACATAAACTCTAT
TTTAGTTTTTTTATTAAATAATTAGATATAAATAGAATAAAATAAAGTGACTAAAAA
TTAAACAAATACCCTTTAAGAAATTAATAAACTAAGGAAACATTTTTCTGTTCGAG
TAGATAATGCCAGCCTGTTAAACGCCGTCGACGAGTCTAACGGACCAACACGCGAAC
CAGCAGCGTCGCGTGGGCCAAGCGAAGCAGACGGCAGGCATCTCTGTCGCTGCCTCT
GGACCCCTCTCGAGAGTTCCGCTCCACCGTTGGACTTGCTCCGCTGTGGGCATCCAGAA
ATTGCGTGGCGAGCGGCAGACGTGAGCCGGCAGGCAGGCGGCTCCTCTCTCTCA
CGGCAGGCAGCTAGCGGGGATTCTTTCCACCGCTCCTTCGCTTTCCCTTCTCTCGCC
CGCCGTAATAAATAGACACCCCTCCACACCTCTTTCCCCAACCTCGTGTGTTTCGGA
GCGCACACACACACACAGATCTCCCCAAATCCACCGTCGGCACCTCCGCTTC

SEQ ID NO 29: prm3122 (sense, AttB1 site in *italic*)

GGGGACAAGTTTGTACAAAAAGCAGGCTTCACAATGGGGATGGAGGTGG

SEQ ID NO 30: prm3123 (reverse, complementary, AttB2 site
in *italic*)

GGGGACCACTTTGTACAAGAAAGCTGGGTGCACTGTTTCATCTTCTCTCC

FIGURE 3 (continued)